

ABSTRACT OF THE DISCLOSURE

5 A technique for estimating the position of an object from sensor measurements in the presence of multipath conditions is disclosed. In one aspect, the technique includes a position estimator comprising a signal filter, a multipath detector, and a multipath bias estimator. The signal filter is capable of receiving a sensor measurement and generating a measurement noise variance estimate and a position estimate therefrom. The multipath detector is capable of applying a dynamic threshold against the measurement noise variance estimate to determine whether a multipath condition exists. And, the multipath bias estimator is capable of generating a correction for multipath induced measurement bias error from a measurement noise variance estimate for application upon determining that a multipath condition exists. In another aspect, the technique includes a method comprising filtering the sensor measurement with a measurement noise variance estimator to yield a measurement noise variance estimate; comparing the estimate against a dynamic threshold to detect whether a multipath condition exists; determining a correction for a multipath induced measurement bias error from the estimate if the multipath condition is detected; and applying the correction to the estimation of the object's position.

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